

**REMARKS****Status of Claims:**

Claims 1, 4, 12-17 are pending in the subject application.

Claims 1, 4, 12-15 were rejected.

Claims 16 and 17 were previously allowed.

**Patent Office rejection of claims 1, 4, 12-15 under 35 U.S.C. § 103(a):**

Claims 1, 4, 12-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Liang (WO 94/08331) in view of Applicant's Admitted Prior Art and Johary, et al. (U.S. Patent No. 5,196,839).

In making the rejection, the examiner asserts that LIANG "discloses a fault tolerant LCD controller for controlling the gray scale on at least one pixel" and that "it would have been obvious...to combine the use of polarizer as taught by AAPA with a fault tolerant LCD of LIANG since this will provide a uniform brightness to the LCD system." The examiner also asserts that "LIANG (as modified by Applicant's Admitted Prior Art) discloses a liquid crystal display with a gray scale control" and that "it would have been obvious...to have incorporated programmable gray-scale drives of Johary into the system of LIANG, since this will allow the LIANG device to have an advantage of automatically control the gray scale of a display in order to ensure simplicity and higher efficiency of adjustment operation without requiring operators."

**Applicants' response to rejection of claims 1, 4, 12-15 under 35 U.S.C. § 103(a):**

Claims 1 and 12-15 were amended. Claim 4 remains in its original form. Claims 1 and 12-15 were amended to clarify that the gray-scale control in applicant's invention is across

multiple display panels, and not on a single display panel. Unlike the admitted prior art or the cited references, applicants' invention uses a **plurality of display panels** with arrays of **single picture elements (pixels)** and a **gray-scale controller that operates across the plurality of display panels**. This is not taught or made obvious by the prior art.

Applicants respectfully traverse the § 103(a) rejection of claims 1, 4, and 12-15. In making the rejection, the examiner asserts that LIANG "discloses a fault tolerant LCD controller for controlling the gray scale on at least one pixel." The claimed invention is clearly distinguished over Liang. Applicants' invention uses a single pixel structure against the teachings of Liang, which instead uses a symmetrical drive dual redundancy (SDDR) pixel structure that comprises two sub-pixels (L1, L2) for each pixel formed on a single substrate (display panel). *See* Abstract; page 4, lines 19-25; Figures 6, 7, 11. On page 1, Liang teaches of the problems of having a single picture element (pixel) and also of problems of driving dual redundant picture elements. He specifically notes that although redundant features have been introduced to minimize the impact of defects in LCD TFT array manufacturing process, "in these redundant pixel structures, the additional parts do not serve to improve the performance of the pixel but simply serve as backups or alternatives to guard against, or provide some recovery from defects." Page 1, lines 40-41; page 2, lines 1-2. Liang's invention overcomes the problems of driving redundant pixels formed on a single substrate (display panel); thus, teaching away from applicants' invention that uses a single pixel structure on a single substrate.

The examiner also asserts that "LIANG (as modified by Applicant's Admitted Prior Art) discloses a liquid crystal display with a gray scale control." Again, the claimed invention is clearly distinguished over Liang. Although Liang does teach a fault tolerant LCD controller for controlling the gray scale level for a pixel, his invention teaches improving analog

gray scale capability for a pixel by transmittance averaging between two symmetrically driven sub-pixels on a single substrate. *See* page 8, lines 21-28. Liang emphasizes that “since two sub-pixels are used in each SDDR pixel..., intermediate gray levels can be achieved by applying signals of slightly different amplitudes to the two sub-pixels.” Page 10, lines 21-24. On the other hand, the gray scale controller of applicants’ invention operates, not on redundant pixels on a single substrate as Liang teaches, but on single pixels across the plurality of display panels.

Because of the substantial dissimilarities between the teachings of Liang and the invention described and claimed by the Applicants, Applicants assert that the 35 U.S.C. § 103(a) rejection of claims 1, 4, and 12-15 is improper. Withdrawal of the rejection is, therefore, respectfully requested.

**Conclusion:**

Applicants have amended the application in anticipation of a favorable reconsideration and examination.

Respectfully submitted,

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